REMARKS

Applicant acknowledges receipt of the Final Action of 6 FEB. 2008 and requests reconsideration of the application, as amended. Claim 6 has been combined into first independent claim 1, and claim 15 has been combined into second independent claim 15.

REJECTIONS BASED ON SECTION 103

The Final Rejection relies, for the first time, on ZENITANI (USP 5,788,467), listed on form PTO-892. ZENITANI is directed to cooling of a large switching cabinet 1, as shown in FIG. 1. It has four fan units 3, each of which accommodates two fans (col. 4, lines 25-27). FIGS. 6-8 & 18-22 show one of these fans.

To facilitate comparison with products of the Assignee, EBM-PAPST, two sheets from the Assignee's product literature are submitted herewith. Explanatory Sheet 1 shows, in cross-section, 2 versions of the Assignee's fans: one with ball bearings, at left, captioned "Kugel lager" and one with a plain bearing, at right, captioned "Gleit lager." Explanatory Sheet 2, bearing page number 118 at bottom left, illustrates a **Series 5600** AC axial fan marketed by the Assignee.

Switching cabinets 1, as shown by ZENITANI, customarily are cooled by either 8 or 16 fans, of the type shown in the Series 5600 catalog page. These fans consume considerable current, and are therefore connected **directly** to the **AC** power grid. Such a fan weighs about 800 grams (about 28 ounces), i.e. quite heavy, and, depending upon the installation and the operating voltage (115 V in the US or 230 in Europe), has a power demand of about **30 watts**, as shown in column 8 of the Series 5600 page. Contrast with the **half-watt** to **3.5 watt** motors mentioned at specification page 1, lines 15-20.

Such fans are installed in special modules, known in the trade as "fan trays," and such fans are generally driven by a shaded pole motor at about 3100 RPM. They must have, above and below their fan blades, a protective screen to prevent anyone from inserting a finger, which such a fan could easily sever. This is a completely different situation than found with the small, low-power fans of the present invention, which one can readily and safely stop with one's fingers, since their power is only a few watts.

The ZENITANI protective screen is designated as "finger guard 18a" and described at col. 4, lines 34-67. As FIG. 4 shows, such a finger guard 15a must **also** be provided **underneath** the fan. To receive the two fans 12, a molded housing 11 of plastic is provided, as shown in section in FIG. 4. The fans 12 are inserted into this housing 11, and secured by "fan fixing projections 16 (see col. 5, line 25). Such a fan looks just like the Assignee's fan shown in Explanatory Sheet 2, i.e. it has a quadratic frame which supports the plastic fan-mounting housing. In this position, it is electrically connected using a terminal 22, located on the back side of housing 11. See ZENITANI claim 12, lines 64-65, which recite "a cable accommodated in said cable duct, for electrically connecting said connector means to said fan means."

For display of its functioning, unit 3 also has, on its front side, as shown in FIG. 8, LED indicator lamp 23a and a fuse 23b. This circuit board 23 (see col. 5, lines 50-65) is connected via a cable to a terminal 22, as described at col. 1, lines 58-60.

Page 4 of the Final Rejection asserts that it would have been obvious to combine the ZENITANI feature, of a PC board running substantially parallel to the axis of the air duct, into a small fan structure as taught by the Assignee's former PAPST and BURGBACHER

patents.

ZENITANI, in fact, has little or no relation to the present invention, as recited in amended main claims 1 and 14.

- It relates to mounting of **AC** fans, which don't have nearly as many electronic components as **electronically commutated DC** fans.

- Such AC fans have a standard format, as shown in Explanatory Sheet 2, namely a square housing without lateral extensions, and thus WITHOUT any bridge portion.

- The ZENITANI/FUJITSU circuit board 23 is connected via a cable to the "unit-side connector 22" (col. 5, line 45) and is used merely to *indicate* (using the LED) whether unit 3 is receiving electrical power. The circuitry does not connect to a galvanomagnetic position sensor (recited in the present claims) since, in an AC motor like ZENITANI's, the position of the rotor is not as critically important as in an electronically commutated DC motor, as recited in claims 1 and 14, as amended. In an electronically commutated DC motor, the control circuit has to know when to do switching which reverses the direction of the DC current flowing through the windings, and this has to be timed to **match** where the poles of the rotor are, in order to give the rotor the correct rotational "push."

Applicant respectfully submits that, without the benefit of having read the present disclosure, one of ordinary skill would not have been motivated to try to combine the structure of the AC motor of ZENITANI with the structures of the electronically commutated DC motors of PAPST and BURGBACHER, since ZENITANI needs no region for mounting electronic components to control commutation, and therefore has neither such a component region, nor any bridge portion thereto.

Similar arguments apply with respect to independent claim 14. The Office is respectfully urged to reconsider the section 103

rejections, in light of the foregoing amendments and arguments, and to pass the application to allowance. If any further consideration of the features of PAPST, BURGBACHER, or BROWN is needed, please refer to the explanations on pages 8-12 of the amendment of NOV. 26, 2007.

DRAWING SUPPORT FOR CLAIMS 12, 19

Applicant has belatedly noted that claims 12 & 19 recite a feature **not shown** in the drawings, namely a data bus for external control of the motor. In accordance with the principle that the specification and drawings can be amended to match each other, Applicant submits herewith a proposed correction to FIG. 3, to show schematically connection to a data bus. Specification page 2, last sentence, supports this feature, so there is no "new matter" issue with the proposed change to FIG. 3.

CONCLUSION

In view of the foregoing analysis, it is respectfully submitted that claims 1-5, 7-14, and 16-21, as amended, are now clear and patentably distinguish over BURGBACHER, PAPST et al, BROWN, ZENITANI, SIMPSON, MIZUTANI, and the other art of record, taken singly or in combination. The claims are in condition for allowance.

If the examiner detects any remaining informalities, or wishes to make any suggestions to place the application in better condition for allowance, she is invited to telephone the undersigned.

An extension of time fee is being paid via EFS-WEB; if any additional fee is required, it may be charged to Deposit Account No. 23-0442.

Respectfully submitted,

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Enc.: Explanatory Sheet 1
Explanatory Sheet 2
Letter to Official Draftsperson
Annotated FIG. 3